DOCKET FILE COPY ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Rulemaking to Amend Part 1 and Part 21 of the Commission's Rules to Redesignate the 27.5 - 29.5 GHz Frequency Band and to Establish Rules and Policies for Local Multipoint Distribution Service	)	CC Docket No. 92-297
	)	RM-7872; RM-7722

REPLY COMMENTS OF CALLING COMMUNICATIONS CORPORATION

Tom W. Davidson
Paul S. Pien

Akin, Gump, Strauss, Hauer &
Feld, L.L.P.
1333 New Hampshire Avenue, N.W.
Suite 400
Washington, D. C. 20036

Its Attorneys

Dated: April 15, 1993

SUMMARY

In Calling Communications Corporation's ("Calling") Comments, it announced its plan to apply for authority for a low earth orbit ("LEO") satellite system that will primarily provide fixed satellite service ("FSS") and will operate in part of the frequency band that the Commission has proposed to redesignate for a new local multipoint distribution service ("LMDS"). Because sharing or coordination of frequencies by FSS and LMDS providers is not possible, Calling is concerned that such redesignation (amounting to eighty percent of the Ka-band satellite uplink frequencies) would preclude Calling from implementing and operating its proposed LEO satellite system.

Virtually all of the parties that addressed the question of coordination/sharing between LMDS and FSS systems agree that the two services are incompatible. Under the frequency plan proposed in the Notice, 2 GHz of bandwidth in the Ka-band would be redesignated for LMDS, which would have the effect of virtually banishing FSS from eighty percent of the Ka-band frequencies.

The Commission's proposed regulatory scheme for LMDS appears to be largely based on the fact that until recently the Ka-band has been largely un- or under-utilized by FSS users. The fact that to date there have been only limited FSS use of the Ka-band, however, does not support wholesale abandonment of the band for future FSS use. The fact that this band has lain fallow for many years is precisely what was expected in the short term since these bands were intentionally allocated to accommodate the future growth of FSS when the C- and Ku-bands become congested.

The commenting parties have demonstrated that substantial demand for FSS uses in the Ka-band already exists and extensive demand for such uses will become a reality in the near term. Accordingly, it would be premature and imprudent to redesignate such an expansive amount of bandwidth to LMDS. The Commission must assure that Calling and other potential FSS users have future access to the Ka-band for the provision of FSS services.

Calling urged the Commission to authorize LMDS in the Ka-band frequencies only on a secondary basis to FSS. Alternatively, Calling requested that the Commission set aside to exclusive FSS uses sufficient Ka-band spectrum to accommodate existing, proposed and future FSS use. Several of the commenting parties have urged the Commission to defer any decision on redesignating spectrum in the Ka-band to a proposed LMDS.

Calling recognizes that the Commission may authorize a new LMDS in some form. Accordingly, Calling reiterates its request that at a minimum the Commission provide for a separate assignment of uplink Ka-band spectrum to FSS that is adequate to meet existing, proposed and <u>future</u> FSS uses. Calling suggests that 1000 MHz is an appropriate amount of spectrum for such purposes. The Commission could assign two 500 MHz blocks to LMDS which would allow two 25 channel systems in each market, which with existing video compression technology, would allow LMDS licensees to increase the number of channels well beyond the number envisioned in the Notice.

TABLE OF CONTENTS

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

[redacted]

with existing and projected future demand for FSS use of the Ka-band, the burden must be on the proponents of LMDS to demonstrate that LMDS can co-exist with FSS providers.

II. LMDS AND FSS ARE INCOMPATIBLE.

As Calling explained in its Comments, under the Commission's existing coordination rules, a LMDS receiver and a Calling FSS terminal must be separated by a minimum distance of approximately ten kilometers. Because LMDS will have multicell multipoint configurations throughout a service area, coordination of multiple Calling FSS and LMDS receivers operating in the same frequencies is likely as a practical matter to be impossible.3/

Virtually all of the parties that addressed the question of coordination/sharing between LMDS and FSS systems agree that the

in a LMDS cell would cause harmful interference to LMDS subscriber receivers served by such a cell.5/ Motorola SatCom, which has proposed to operate feeder links for its Iridium LEO system in the Ka-band, also claimed that its FSS uplinks cannot be shared with LMDS operating on the same frequencies.6/

The proponents of LMDS also agree that sharing between LMDS and FSS is not likely to be possible. For example, Suite 12 Group ("Suite 12") acknowledges that sharing between LMDS and FSS

sharing between LMDS and FSS, Sprint Corporation, another LMDS proponent, requests that the Commission "exclude satellite services from LMDS spectrum."8/

Thus, there is no disagreement that sharing between the proposed LMDS and FSS in the same frequencies is technically infeasible. Indeed, no party filing comments in this proceeding has claimed that such sharing is possible.9/

III. EXISTING AND FUTURE DEMAND FOR FSS IN THE KA-BAND.

Given the incompatibility between the proposed LMDS and FSS, authorization of LMDS will have the effect of relegating FSS to secondary status in any Ka-band frequencies that are

---

the Ka-band. Unlike LMDS systems, traditional microwave systems involve a limited number of microwave receivers and directional transmitters which make sharing/coordination between FSS and terrestrial microwave systems in the Ka-band downlink band frequencies feasible.

8/ Comments of Sprint, at 12-13 (filed March 16, 1993) ("Sprint Comments"); see also Comments of Ameritech on LMDS NPRM, at 4 (filed March 16, 1993) (sharing in Ka-band may invite new problems for the industry and the Commission); Comments of EMI Communications Corporation, at 3 (filed March 16, 1993) (sharing of spectrum between LMDS and FSS on a co-channel basis technically inappropriate) ("EMI Comments").

9/ Working Group 3 to the MSS Above 1 GHz Negotiated Rulemaking Committee examined the feeder link requirements of the proponents of satellite systems that would provide mobile satellite service ("MSS") in the 1610-1626 MHz and 2483.5-2500 MHz bands. In the course of its examination, Working Group 3 examined proposed feeder links in the 20/30 GHz bands including whether sharing/coordination with LMDS was feasible. Working Group 3 concluded that FSS and LMDS operating on the same frequencies in these bands is not possible. See Report of Working Group 3 to the MSS Above 1 GHz Negotiated Rulemaking Committee, (MSSAC-43.10) at 33-37 (April 1, 1993) (cited as "Working Group 3 Report").

redesignated for LMDS.10/ Under the frequency plan proposed in the Notice, 2 GHz of bandwidth in the Ka-band would be redesignated for LMDS. Adoption of such plan would have the effect of virtually banishing FSS from eighty percent of the Ka-band frequencies, frequencies that are currently designated on a co-primary basis to FSS users.11/ Given existing and future demand for FSS in the Ka-band, it would be premature and imprudent to redesignate such an expansive amount of bandwidth to LMDS.12/

The Commission's proposed regulatory scheme for LMDS appears to be largely based on the fact that until recently the Ka-band has been largely un- or under-utilized by FSS users, and an accompanying assumption that such lack of use is likely to

---

10/ As Calling discussed in its Comments, in any market where a LMDS system is licensed and operating, it will be impossible to locate any FSS subscriber terminals. See Calling Comments at 4-6.

11/ Such adverse consequences will be exacerbated since the 27.5-29.5 GHz band is expected to comprise 100% of the Ka-band that will actually be available for FSS. The remaining 500 MHz in the Ka-band uplink frequencies is likely to be "shared" with mobile satellite service ("MSS") on a co-primary basis, which will likely render such frequencies unusable for FSS services.

12/ NASA strongly argues that the proponents of LMDS have not demonstrated that a compelling need exists for an additional video service. See NASA Comments at 28-32. It appears that the Commission has already made its determination that such a need does in fact exist. Nevertheless, Calling notes that Suite 12, one of the primary proponents of LMDS, has acknowledged that there is a plethora of existing video delivery services. Thus, to support a 1000 MHz commercial LMDS set-aside in each market to the exclusion of non-commercial use, Suite 12 argues that such a set-aside is required for LMDS licensees to successfully compete against a host of existing and evolving video services including cable, DBS, MMDS, SMATV and video dialtone. Given the plethora of video distribution mediums, at a minimum the FCC must weigh carefully a regulatory scheme for LMDS that would greatly inhibit "co-primary" FSS uses on frequencies assigned to such new video service.

continue.13/ This assumption is clearly unfounded. For example, NASA's Comment's describe in detail its Advanced Communications Technology Satellite ("ACTS") program which will be launched in July 1993 and which will conduct extensive experiments in the Ka-band.14/ In addition, Calling's proposed LEO satellite system (which it announced in its Comments) that will primarily provide fixed services is a significant known proposed future FSS use.15/

Moreover, the fact that to date there has been only limited FSS use of the Ka-band does not support wholesale abandonment of the band for future FSS use. As Hughes Space and Communications Company and Hughes Network Systems, Inc. (collectively "Hughes") notes in their Comments, the fact that the 27.5-29.5 GHz band has lain fallow for many years is "precisely what was intended and expected in the short term for the FSS allocations at [the] Ka band. These bands were intentionally

---

13/ For example, while recognizing that sharing between LMDS and FSS may be problematic, the Commission ignores completely future FSS uses in the Ka-band. See Notice at 8-9.

14/ See NASA Comments at 3-7.

15/ In addition, as the Notice acknowledges, two of the "big" LEO applicants have proposed to operate feeder links in the Ka-band frequencies. In addition to the big LEOs, Norris Satellite Communications, Inc. ("Norris"), which has been authorized to provide FSS in the upper 500 MHz of both the uplink and downlink the Ka-band frequencies, has requested authorization for an additional 200 MHz of spectrum proposed to be redesignated to LMDS. See Petition for Reconsideration of Norris Satellite Communications, Inc., File Nos. 54-DDS-P/L-90, 55-DSS-P-90 (filed August 7, 1992) (seeking reconsideration of the Commission's Order and Authorization, FCC 92-268).

allocated to accommodate the future growth of the FSS at such time as the FSS allocations at C and Ku bands become crowded."16/

Hughes further notes that:

> The present situation in the Ka band FSS allocations simply reflect the fact that the anticipated saturation of C and Ku band is not quite at hand in the United States. But European and Japanese satellite operators already are launching Ka band FSS systems.17/

It is only a matter of time before the C- and Ku-bands are saturated. As this takes place, the ACTS program, in which the U.S. government has already invested over $1 billion, is expected to aid in the development of technological advances necessary to spur additional satellite use of the Ka-band. The certainty that satellite services will develop in the Ka-band is further confirmed by the existing systems being implemented by the Europeans and

users have future access to the Ka-band for the provision of FSS services.18/

IV. THE COMMISSION MUST PROTECT CO-PRIMARY STATUS OF FSS.

In its Comments, Calling urged the Commission to authorize LMDS in the Ka-band frequencies only on a secondary basis

technical showing of the feasibility of sharing by LMDS proponents.22/

Notwithstanding these comments and the unanswered questions regarding the compatibility of LMDS and FSS, Calling recognizes that the Commission may nevertheless authorize LMDS in some form. Accordingly, Calling reiterates its request that at a minimum the Commission provide for a separate assignment of uplink Ka-band spectrum to FSS that is adequate to meet existing, proposed and future FSS uses.23/ Specifically, Calling suggests that 1000 MHz is an appropriate amount of spectrum for such purposes.24/

Calling noted that the Commission could assign two 500 MHz blocks to LMDS which would allow two 25 channel systems in each market, which with existing video compression technology, would allow LMDS licensees to increase the number of channels well beyond

---

22/ HSC/HNS Comments at 4.

23/ Calling Comments at 10-12. FSS operations that are capable of co-existing with LMDS would be eligible to apply to use the LMDS frequencies for earth-to-satellite transmissions. The remaining 1000 MHz in the 27.5-29.5 GHz band would be reserved exclusively for FSS uses that are incompatible with LMDS operations.

24/ Several parties also suggested that segmenting the Ka-band between LMDS and FSS was the only viable means for "sharing" in this frequency band. See EMI Comments at 3 (frequency separation could be achieved by reducing the proposed LMDS bandwidth);

the number envisioned in the Notice.25/ Thus, Calling submits that segmentation of the 27.5-29.5 GHz frequencies between FSS and LMDS uses is a reasonable approach to accommodating the competing and incompatible demand for frequencies in the Ka-band.

V. CONCLUSION.

For the reasons fully set forth above and in its Comments, Calling urges the Commission to proceed cautiously in authorizing the proposed LMDS. Calling agrees with the commenting parties that have urged the Commission to defer any decision on authorizing LMDS until the serious sharing/coordination issues between LMDS and FSS can be fully resolved and until the future of FSS in the Ka-band is clearer. If the Commission nevertheless elects to authorize LMDS on a "co-primary" status with FSS, reserving an adequate amount of spectrum for incompatible FSS

25/ Calling Comments at 11; see also Suite 12 Comments at 8 (acknowledging that video compression techniques will enable LMDS operators to greatly increase channel capacities); EMI Comments at 1 (given existing digital compression techniques, two grants of 1000 MHz is unnecessary and could promote spectral inefficiency). Calling notes that technology is presently available for the production of commercially viable video compression products.

operations is essential to preserving access by existing, proposed and future FSS uses of the Ka-band.

Respectfully submitted,

CALLING COMMUNICATIONS CORPORATION

By: Paul S. Pien

Tom W. Davidson
Paul S. Pien

Akin, Gump, Strauss, Hauer &
Feld, L.L.P.
1333 New Hampshire Avenue, N.W.
Suite 400
Washington, D. C. 20036

Its Attorneys

Dated: April 15, 1993

CERTIFICATE OF SERVICE

I, Dana S. Gregory, hereby certify that on this 15th day of April, 1993 I caused to be served a copy of the foregoing Reply Comments of Calling Communications Corporation by regular mail upon the following:

James H. Quello*
Chairman
Federal Communications Commission
1919 M Street, N.W., Room 802
Washington, D.C. 20554

Sherrie P. Marshall*
Commissioner
Federal Communications Commission
1919 M Street, N.W., Room 826
Washington, D.C. 20554

Andrew C. Barrett*
Commissioner
Federal Communications Commission
1919 M Street, N.W., Room 844
Washington, D.C. 20554

Ervin S. Duggan*
Commissioner
Federal Communications Commission
1919 M Street, N.W., Room 832
Washington, D.C. 20554

Thomas P. Stanley*
Chief Engineer
Office of Engineering and Technology
2025 M Street, N.W., Room 7002
Washington, D.C. 20554

Cheryl A. Tritt*
Chief, Common Carrier Bureau
Federal Communciations Commission
1919 M Street, N.W., Room 500
Washington, D.C. 20554

Gary M. Epstein
Latham & Watkins
1001 Pennsylvania Avenue, N.W.
Washington, D.C. 20004

Jay C. Keithley
1850 M Street, N.W.
Suite 1100
Washington, D.C. 20036

Philip L. Malet
Alfred M. Mamlet
Pantelis Michalopoulos
Steptoe & Johnson
1330 Connecticut Avenue, N.W.
Washington, D.C. 20036

Deborah H. Morris
30 South Wacker Drive
39th Floor
Chicago, Illinois 60606

EMI Communications
P.O. Box 4872
Syracuse, New York 13221

Charles T. Force
Associate Administrator for
Space Communications
National Aeronautics & Space Administration
Code "O"
Washington, D.C. 20546-0001

Leslie A. Taylor, Esquire
Leslie Taylor Associates
6800 Carlynn Court
Bethesda, Maryland 20817-4302

Henry M. Rivera
Larry S. Solomon
Ginsburg, Feldman & Bress, Chartered
1250 Connecticut Avenue, N.W.
Washington, D.C. 20036

Dana S. Gregory

*By Hand